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### PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

| * * *        | * *   | * *   | * *   | * Welcome to STN International * * * * * * * * *  |  |  |  |  |
|--------------|-------|-------|---|---|--|--|--|--|
|              |       |       |   |   |  |  |  |  |
| NEWS         | 1     |       |   | Web Page for STN Seminar Schedule - N. America  |  |  |  |  |
| NEWS         |       | JUL   |   | CA/CAplus patent coverage enhanced  |  |  |  |  |
| NEWS         | 3     | JUL   | 28  | EPFULL enhanced with additional legal status  |  |  |  |  |
|              |       |       |   | information from the epoline Register   |  |  |  |  |
| NEWS         | 4     | JUL   |   | IFICDB, IFIPAT, and IFIUDB reloaded with enhancements   |  |  |  |  |
| NEWS         |       | JUL   |   | STN Viewer performance improved   |  |  |  |  |
| NEWS         | 6     | AUG   |   | INPADOCDB and INPAFAMDB coverage enhanced   |  |  |  |  |
| NEWS         | 7     | AUG   | 13  | CA/CAplus enhanced with printed Chemical Abstracts  |  |  |  |  |
| NELLO        | ^     | 3.110 | 1.5   | page images from 1967-1998  |  |  |  |  |
| NEWS<br>NEWS | 8     | AUG   |   | CAOLD to be discontinued on December 31, 2008<br>CAplus currency for Korean patents enhanced      |  |  |  |  |
| NEWS         |       | AUG   |   |   |  |  |  |  |
| NEWS         | 10    | AUG   | 21  | CAS definition of basic patents expanded to ensure comprehensive access to substance and sequence |  |  |  |  |
|              |       |       |   | information   |  |  |  |  |
| NEWS         | 11    | SEP   | 1.0   | Support for STN Express, Versions 6.01 and earlier,   |  |  |  |  |
| MENO         | 11    | OLL   | 10  | to be discontinued  |  |  |  |  |
| NEWS         | 12    | SEP   | 25  | CA/CAplus current-awareness alert options enhanced  |  |  |  |  |
|              |       |       |   | to accommodate supplemental CAS indexing of   |  |  |  |  |
|              |       |       |   | exemplified prophetic substances  |  |  |  |  |
| NEWS         | 13    | SEP   | 26  | WPIDS, WPINDEX, and WPIX coverage of Chinese and  |  |  |  |  |
|              |       |       |   | and Korean patents enhanced   |  |  |  |  |
| NEWS         | 14    | SEP   | 29  | IFICLS enhanced with new super search field   |  |  |  |  |
| NEWS         | 15    | SEP   | 29  | EMBASE and EMBAL enhanced with new search and   |  |  |  |  |
|              |       |       |   | display fields  |  |  |  |  |
| NEWS         | 16    | SEP   | 30  | CAS patent coverage enhanced to include exemplified   |  |  |  |  |
|              |       |       |   | prophetic substances identified in new Japanese-  |  |  |  |  |
|              |       |       |   | language patents  |  |  |  |  |
| NEWS         |       | OCT   |   | EPFULL enhanced with full implementation of EPC2000   |  |  |  |  |
| NEWS         | 18    | OCT   | 07  | Multiple databases enhanced for more flexible patent  |  |  |  |  |
|              |       |       |   | number searching  |  |  |  |  |
| NEWS         | 19    | OCT   | 22  | Current-awareness alert (SDI) setup and editing   |  |  |  |  |
| NELLO        | 0.0   |       | 00  | enhanced  |  |  |  |  |
| NEWS         | 20    | OCT   | 22  | WPIDS, WPINDEX, and WPIX enhanced with Canadian PCT   |  |  |  |  |
| NEWS         | 21    | OCT   | 2.4   | Applications<br>CHEMLIST enhanced with intermediate list of                                       |  |  |  |  |
| MEMP         | 21    | OCI   | 24  | pre-registered REACH substances   |  |  |  |  |
|              |       |       |   | pre-registered KhACH Substances   |  |  |  |  |
| NEWS         | EXPE  | ESS   | .TIINI  | E 27 08 CURRENT WINDOWS VERSION IS V8.3,  |  |  |  |  |
| 112110       |       |       |   | CURRENT DISCOVER FILE IS DATED 23 JUNE 2008.  |  |  |  |  |
|              |       |       |   |   |  |  |  |  |
| NEWS         | HOURS |       | STN Operating Hours Plus Help Desk Availability |   |  |  |  |  |
| NEWS         | LOGIN |       | We.   | Welcome Banner and News Items   |  |  |  |  |
| NEWS         | IPC8  | 3     | For   | r general information regarding STN implementation of IPC   |  |  |  |  |
|              |       |       |   |   |  |  |  |  |

Enter NEWS followed by the item number or name to see news on that specific topic.

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=> fil reg

 COST IN U.S. DOLLARS
 SINCE FILE
 TOTAL

 ENTRY
 SESSION

 FULL ESTIMATED COST
 0.21
 0.21

FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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STRUCTURE FILE UPDATES: 10 NOV 2008 HIGHEST RN 1071907-21-5 DICTIONARY FILE UPDATES: 10 NOV 2008 HIGHEST RN 1071907-21-5

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

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http://www.cas.org/support/stngen/stndoc/properties.html

=>

Uploading C:\Program Files\Stnexp\Oueries\10591820 formula I A is N.str

2 3 4 5 6 17 24 25 26 27 28 29 31 37 38 42 43 45

G1:X, MeO, EtO, n-PrO, i-PrO, CH3, CH2, CH, Et, n-Pr, i-Pr

chain nodes :

ring nodes :

Match level :

1:Atom 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:Atom 31:CLASS 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:CLASS 38:CLASS 42:CLASS 43:CLASS 45:CLASS 45:CLASS

L1 STRUCTURE UPLOADED

=> d 11 L1 HAS NO ANSWERS

L1 STR

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> s 11 sam

SAMPLE SEARCH INITIATED 18:13:03 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 11 TO ITERATE

100.0% PROCESSED 11 ITERATIONS 10 ANSWERS SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*
BATCH \*\*COMPLETE\*\*
PROJECTED ITERATIONS: 22 TO 4:

 PROJECTED ITERATIONS:
 22 TO
 418

 PROJECTED ANSWERS:
 11 TO
 389

L2 10 SEA SSS SAM L1

=> s 11 full

FULL SEARCH INITIATED 18:13:10 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 127 TO ITERATE

100.0% PROCESSED 127 ITERATIONS 102 ANSWERS SEARCH TIME: 00.00.01

L3 102 SEA SSS FUL L1

=> d scan

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3-methyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)

MF C35 H38 C12 N6 O6 S . C2 H F3 O2

CM 1

CM 2

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> fil stng

 COST IN U.S. DOLLARS
 SINCE FILE
 TOTAL

 FULL ESTIMATED COST
 178.36
 178.36
 178.78

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008 USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 7, 2008 (20081107/UP).

=> fil reg

 COST IN U.S. DOLLARS
 SINCE FILE
 TOTAL

 ENTRY
 SESSION

 FULL ESTIMATED COST
 0.12
 178.69

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2008 American Chemical Society (ACS)

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STRUCTURE FILE UPDATES: 10 NOV 2008 HIGHEST RN 1071907-21-5 DICTIONARY FILE UPDATES: 10 NOV 2008 HIGHEST RN 1071907-21-5

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

= >

chain nodes :

Uploading C:\Program Files\Stnexp\Queries\10591820 not.str

```
2 3 4 5 6 17 24 25 26 27 28 29 31 37 38 43  
ring nodes:
1 7 8 9 10 11 12 13 14 15 16 18 19 20 21 22 23 30 32 33 34 35 36  
schain bonds:
1-2 1-43 2-3 2-25 3-4 4-5 4-6 5-26 5-27 6-7 10-28 13-17 17-18 22-24  
28-29 29-30 29-31 32-37 36-38  
ring bonds:
1-3 1-16 7-8 7-12 8-9 9-10 10-11 11-12 13-14 14-15 15-16 18-19 18-23  
19-20 20-21 21-22 22-23 30-32 30-36 32-33 33-34 34-35 35-36  
exact/norm bonds:
1-13 1-16 1-43 2-3 2-55 3-4 5-26 5-27 10-28 13-14 13-17 14-15 15-16  
28-29 29-31 32-37 36-38
```

1-2 4-5 4-6 6-7 17-18 22-24 29-30 normalized bonds : 7-8 7-12 8-9 9-10 10-11 11-12 18-19 18-23 19-20 20-21 21-22 22-23 30-32 30-36 32-33 33-34 34-35 35-36

G1:X, MeO, EtO, n-PrO, i-PrO, CH3, CH2, CH, Et, n-Pr, i-Pr

G2:H,N

G3:H,CH3

Match level : 1:Atom 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:Atom 31:CLASS 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:CLASS 38:CLASS 43:CLASS

# L4 STRUCTURE UPLOADED

=> s 14 sam subset=13 SAMPLE SUBSET SEARCH INITIATED 18:15:13 FILE 'REGISTRY' SAMPLE SUBSET SCREEN SEARCH COMPLETED - 10 TO ITERATE

10 ITERATIONS 100.0% PROCESSED 0 ANSWERS

SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET): ONLINE \*\*COMPLETE\*\* PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET): 11 TO 389 PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET): 0 TO

L5 0 SEA SUB=L3 SSS SAM L4

=> s 14 full subset=13 FULL SUBSET SEARCH INITIATED 18:15:21 FILE 'REGISTRY' FULL SUBSET SCREEN SEARCH COMPLETED - 102 TO ITERATE

100.0% PROCESSED 102 ITERATIONS 0 ANSWERS

SEARCH TIME: 00.00.01

1.6 0 SEA SUB=L3 SSS FUL L4

=> d his

(FILE 'HOME' ENTERED AT 18:12:29 ON 11 NOV 2008)

FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008 STRUCTURE UPLOADED

L2 10 S L1 SAM

L3 102 S L1 FULL

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008

T. 4 STRUCTURE UPLOADED 1.5 0 S L4 SAM SUB=L3

1.6 0 S L4 FULL SUB=L3 => d scan 13

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-piperidinyl)prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)

MF C34 H34 C12 F2 N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN IN L-Phenylalanine, (3S)-1-[(3-cvanophenyl)sulfonyl]-

L-Phenylalanine, (3S)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-

pyridinyl)carbonyl]amino]-, monosodium salt (9CI)

MF C31 H32 C12 N6 O6 S . Na

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C34 H36 C12 N6 O6 S . C2 H F3 O2

CM 1

### Absolute stereochemistry.

CM 2

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(phenylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C35 H31 C12 N5 O6 S2

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylammonio)ethyl ester (9CI)
- MF C37 H42 C12 F2 N7 O6 S

Absolute stereochemistry.

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)-isoquinolinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)
- MF C36 H38 C12 N6 O6 S
- CI COM

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-prolyl-4-[(1,3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C32 H32 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-
- prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H36 C12 N6 O6 S
- CI COM

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C36 H40 C12 N6 O6 S
- CI COM

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(phenylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C33 H27 C12 N5 O6 S2

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pytrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylammonio)ethyl ester (9CI)
- MF C36 H40 C12 F2 N7 O6 S

Absolute stereochemistry.

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)-isoquinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)

MF C36 H38 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(2-methyl-1-
- piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C33 H34 C12 N6 O6 S
- CI COM

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

=> fil caplus

COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION

44.86

223.55

FULL ESTIMATED COST

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FILE COVERS 1907 - 11 Nov 2008 VOL 149 ISS 20 FILE LAST UPDATED: 10 Nov 2008 (20081110/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/legal/infopolicy.html 'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d his

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FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008

STRUCTURE UPLOADED 1.1 10 S L1 SAM

T. 3 102 S L1 FULL

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008

STRUCTURE UPLOADED L40 S L4 SAM SUB=L3 L5 0 S L4 FULL SUB=L3

FILE 'CAPLUS' ENTERED AT 18:18:15 ON 11 NOV 2008

=> s 13

L6

4 L3

=> d ti 1-4

- L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of prolyl peptide derivatives as VLA-4 antagonists
- L7 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of dipeptide derivatives as VLA-4 antagonists
- L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of prolylphenylalanine derivatives as VLA-4 antagonists
- L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of N-arylsulfonyl aza-bicyclic derivatives as potent cell adhesion inhibitors

=> s US20070179190/pn

L8 1 US20070179190/PN

=> d ti

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

TI Preparation of prolylphenylalanine derivatives as VLA-4 antagonists

=> d ibib abs hitstr 17 4

L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:23531 CAPLUS

DOCUMENT NUMBER: 138:90079

TITLE: Preparation of N-arylsulfonyl aza-bicyclic derivatives

as potent cell adhesion inhibitors

INVENTOR(S): Lin, Linus S.; Doherty, George; Shah, Shrenik K.; Chang, Linda L.; Hagmann, William K.; Mumford, Richard

h

PATENT ASSIGNEE(S): Merck & Co., Inc., USA

SOURCE: U.S. Pat. Appl. Publ., 31 pp.

CODEN: USXXCO
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND   | DATE      | APPLICATION NO.   | DATE     |
|------------------------|--------|-----------|-------------------|----------|
|                        |        |           |                   |          |
| US 20030008861         | A1     | 20030109  | US 2002-96607     | 20020313 |
| US 6855708             | B2     | 20050215  |                   |          |
| PRIORITY APPLN. INFO.: |        |           | US 2001-277233P P | 20010320 |
| OTHER SOURCE(S):       | MARPAT | 138:90079 |                   |          |

GI

- AB Compds. I [R2 is an (un)substituted cycloalkyl or heterocyclyl ring; R1 = H, alkyl, arylalkyl; R2, R4 = halo, alkyl, alkoxy; R3 = H, OH, MeO, NH2; Z = N or N:0; Arl = (un)substituted Ph, pyridyl, pyridazinyl, pyrimidinyl, pyrazinyl, or triazinyl; Ar2 = 1,4-phenylene or 2,5-pyridylene; X, Y = (CH2)0-2; R5 = H, alkyl; R6, R7 = H, alkyl; OH, alkoxy, carboxy, amino, sulfonylamino, etc.] or their pharmaceutically-acceptable salts were prepared as antagonists of VLA-4 and/or α4/β7 and as such are useful in the inhibition or prevention of cell adhesion and cell-adhesion mediated pathologies. Thus, N-[N-(3,5-dichlorobenzenesulfonyl)octahydroisoindole-1-carbonyl]-4-[(3,5-dichlorobenzenesulfonyl)octahydroisoindole-1-carboxylic acid chloride with 4-[(3,5-dichlorobenzenesulfonyl)octahydroisoindole-1-carboxylic acid chloride with 4-[(3,5-dichloroisonicotinoyl)] minol-1-phenylalanine tert-Bu ester (syntheses diven), followed by separation of disateromers and ester
  - chloride with 4-[(3,5-dichloroisonicotinoyl)amino]-L-phenylalanine tertester (syntheses given), followed by separation of diastereomers and escleavage. 483973-78-0P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
    - (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (USes) (preparation of N-arylsulfonyl heteroaroyl amino acid derivs. as cell adhesion inhibitors)
- RN 483973-78-0 CAPLUS
  CAPLUS
  L-Phenylalanine, N-[[2-[(3-cyanophenyl)sulfonyl]octahydro-1H-isoindol-1-yl]carbonyl]-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (CA INDEX NAME)

=> d his

(FILE 'HOME' ENTERED AT 18:12:29 ON 11 NOV 2008)

FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008

L1 STRUCTURE UPLOADED

L2 10 S L1 SAM

L3 102 S L1 FULL

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008

STRUCTURE UPLOADED T. 4 L5 0 S L4 SAM SUB=L3

0 S L4 FULL SUB=L3 L6

FILE 'CAPLUS' ENTERED AT 18:18:15 ON 11 NOV 2008

L7 4 S L3 L8 1 S US20070179190/PN

=> fil medline biosis embase

COST IN U.S. DOLLARS

SINCE FILE TOTAL SESSION ENTRY FULL ESTIMATED COST 10.81 234.36

DISCOUNT AMOUNTS (FOR OUALIFYING ACCOUNTS) SINCE FILE TOTAL

ENTRY SESSION -0.80 CA SUBSCRIBER PRICE -0.80

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=> s 13 L9 0 L3

=> fil stng

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=> d scan 13

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
  IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclobutylamino)-Lprolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester,
  monomethanesulfonate (9CI)
- MF C33 H34 C12 N6 O6 S . C H4 O3 S

CM :

Absolute stereochemistry.

CM 2

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):102

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H31 C12 N5 07 S2

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C34 H36 C12 N6 O6 S . C2 H F3 O2

CM 1

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3S)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)

MF C31 H29 C12 F N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3-methyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C33 H34 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-
- azetidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
  MF C30 H26 C12 F2 N6 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (48)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H31 C12 N5 O6 S2

### Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-4-(2-azabicyclo[2.2.2]oct-2-y1)-1-[(3-cyanophenyl)sulfonyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9C1)
- MF C34 H34 C12 N6 O6 S
  - I COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2R)-2-[(1,1-dimethylethoxy)carbonyl]-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9C1)
- MF C38 H42 C12 N6 O8 S

### Absolute stereochemistry.

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-dimethyl-1-4-(3,3-dime
- piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) MF  $\sim$  C34 H36 C12 N6 O6 S
  - CI COM

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2S)-2-(trifluoromethyl)-1-pyrrolidinyl]-1-prolyl-4-[[(3,5-dichloro-4pyridinyl)carbonyl]amino]-, ethyl ester (9C1)

MF C34 H33 C12 F3 N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(2-methyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)

MF C33 H34 C12 N6 O6 S

I COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H36 C12 N6 O6 S CI COM

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(phenylthio)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C35 H31 C12 N5 O6 S2

- L3
- 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN L-Phenylalanine, (4R)-1-((3-cyanophenyl)sulfonyl)-4-(octahydro-1(2H)-quinolinyl)-L-prolyl-4-(((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl IN ester, mono(trifluoroacetate) (9CI) C38 H42 C12 N6 O6 S . C2 H F3 O2
- MF

CM

Absolute stereochemistry.

CM 2

- 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- TN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1pyrrolidiny1)-L-proly1-4-[[(3,5-dichloro-4-pyridiny1)carbony1]amino]-(9CI)
- C31 H28 C12 F2 N6 O6 S ME

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- ΙN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-methyl-1piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI) MF
  - C35 H38 C12 N6 O6 S . C2 H F3 O2

CM

Absolute stereochemistry.

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

MF C34 H34 C12 F2 N6 O6 S

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclobutylamino)-L-
- proly1-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C31 H30 C12 N6 O6 S
- CI COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (3S)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H36 C12 N6 O6 S

Absolute stereochemistry.

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,1-dimethylethyl)thio]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H35 C12 N5 O6 S2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-dimethyl-1-piperidinyl)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C36 H40 C12 N6 O6 S
- CI COM

Absolute stereochemistry.

# \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3R)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H33 C12 F N6 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3-methyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-,
- ethyl ester (9CI) MF C35 H38 C12 N6 O6 S
- CI COM

### Absolute stereochemistry.

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolldinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H32 C12 F2 N6 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H31 C12 N5 O7 S2

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-4-(2-azabicyclo[2.2.2]oct-2-y1)-1-[(3-cyanophenyl)sulfonyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C34 H34 C12 N6 O6 S . C2 H F3 O2

CM 1

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2R)-2-[(1,1-dimethylethoxy)carbonyl]-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9C1)

MF C36 H38 C12 N6 O8 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C34 H36 C12 N6 O6 S . C2 H F3 O2

CM :

Absolute stereochemistry.

CM :

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2S)-2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H29 C12 F3 N6 O6 S

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(2-methyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)

MF C33 H34 C12 N6 O6 S . C2 H F3 O2

CM

### Absolute stereochemistry.

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

 $\label{eq:local_local_local} \begin{tabular}{ll} L-Phenylalanine, $(4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, $(4R)-1-[(4R)-4-$ 

mono(trifluoroacetate) (9CI) C34 H36 C12 N6 O6 S . C2 H F3 O2

CM 1

MF

Absolute stereochemistry.

CM

REGISTRY COPYRIGHT 2008 ACS on STN L3 102 ANSWERS

L-Phenylalanine, (4R)-1-[(3-cyanophenyl) sulfonyl]-4-[phenylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9C1)
C33 H27 C12 N5 O6 52 IN

MF

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)isoquinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino](9C1)
- MF C36 H38 C12 N6 O6 S
- CI COM

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-piperidinyl)prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H34 C12 F2 N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)

MF C34 H36 C12 N6 O6 S

CI COM

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-difluoro-1-
- ... ... ... ... ... ...

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (3S)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C31 H32 C12 N6 O6 S
- CI COM

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclobutylamino)-L-prolyl-4-[(13,5-dichloro-4-pyridinyl)carbonyl]amino]-, monomethanesulfonate (9CI)
- MF C31 H30 C12 N6 O6 S . C H4 O3 S

CM

### Absolute stereochemistry.

CM 2

- 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN L3
- L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,1dimethylethyl)thio]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)

MF C31 H31 C12 N5 O6 S2

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-dimethyl-1-IN piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C36 H40 C12 N6 O6 S . C2 H F3 O2

CM

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3R)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)

MF C31 H29 C12 F N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3-methyl-1-piperidinyl)-L-prolyl-4-[([(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C35 H38 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)
- MF C31 H28 C12 F2 N6 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H35 C12 N5 O7 S2

# Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-4-(2-azabicyclo[2.2.2]oct-2-yl)-1-[(3-cyanophenyl)sulfonyl]-L-prolyl-4-[[3,5-dichloro-4-pyridinyl)carbonyl]aminol-, methyl ester (9CI)
- MF C35 H36 C12 N6 O6 S
- CI COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-4-[(2R)-2-carboxy-1-pyrrolidinyl]-1-[(3-cyanophenyl)sulfonyl]-1-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]aminol- (9CI)
- MF C32 H30 C12 N6 O8 S

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-dimethyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C36 H40 C12 N6 O6 S
  - I COM

## Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9G)
- MF C34 H33 C12 F3 N6 O6 S

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(2-methyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C35 H38 C12 N6 O6 S
- CI COM

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- $\label{eq:local_local_local_local} IN $$ L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, $$ $$ (4R)-1-[(3,3-dichloro-4-pyridinyl)carbonyl]amino]-, $$ $$ (4R)-1-[(3,3-dichloro-4-pyridinyl)carbonyl]amino]-, $$ $$ (4R)-1-[(3,3-dichloro-4-pyridinyl)carbonyl]amino]-, $$ (4R)-1-[(3,3-dichloro-4-pyridinyl)carb$

ethyl ester (9CI) MF C34 H34 C12 F2 N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,2-dimethylpropyl)thio]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)

MF C32 H33 C12 N5 O6 S2 Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)-isoquinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C36 H38 C12 N6 O6 S . C2 H F3 O2

CM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN
- L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-piperidinyl)prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) C32 H30 C12 F2 N6 O6 S MF

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9C1)

MF C34 H36 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-methoxyethyl ester (9CI)

MF C35 H36 C12 F2 N6 O7 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-4-(1-azetidinyl)-1-[(3-cyanophenyl)sulfonyl]-Lprolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
  MF C32 H32 C12 N6 O6 S

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (3S)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-
- pyridinyl)carbonyl]amino]-, (2,2-dimethyl-1-oxopropoxy)methyl ester (9CI)
  MF C37 H42 C12 N6 O8 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfonyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H31 C12 N5 O8 S2

### Absolute stereochemistry.

# \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-1(2H)-quinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C36 H38 C12 N6 O6 S
- CI COM

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-fluoro-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)

MF C34 H35 C12 F N6 O6 S

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-methyl-1-

piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)

MF C33 H34 C12 N6 06 S CI COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-,
- methyl ester (9CI) MF C32 H30 C12 F2 N6 O6 S

### Absolute stereochemistry.

# \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfonyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H31 C12 N5 O8 S2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- L-Phenylalanine, (4R)-4-(2-azabicyclo[2.2.2]oct-2-y1)-1-[(3-cyanophenyl)sulfonyl]-L-prolyl-4-[[(3,5-dichloro-4-IN
- pyridinyl)carbonyl]amino]-, methyl ester, mono(trifluoroacetate) (9CI)
  C35 H36 C12 N6 O6 S . C2 H F3 O2
- MF

CM 1

Absolute stereochemistry.

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H35 C12 N5 O6 S2

# \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C36 H40 C12 N6 O6 S . C2 H F3 O2

CM 1

### Absolute stereochemistry.

CM :

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9C1)
- MF C32 H29 C12 F3 N6 O6 S

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(2-methyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C35 H38 C12 N6 O6 S . C2 H F3 O2

CM

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C32 H30 C12 F2 N6 O6 S

### Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,2-dimethylpropyl)thio]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H37 C12 N5 O6 S2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)isoquinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-,
  ethyl ester (9CI)
- MF C38 H42 C12 N6 O6 S
- CI COM

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(4,4-difluoro-1-piperidinyl)prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H34 C12 F2 N6 O6 S

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)

MF C36 H40 C12 N6 O6 S

CI COM

Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-1-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylammonio)ethyl ester (9CI)
- MF C37 H42 C12 F2 N7 O6 S

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)

MF C32 H32 C12 N6 O6 S

CI COM

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (35)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclohexylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- MF C33 H33 C12 N5 O6 S2

### Absolute stereochemistry.

## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-1(2H)-quinolinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C36 H38 C12 N6 O6 S . C2 H F3 O2

CM 1

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-fluoro-1-
- piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
  MF C32 H31 Cl2 F N6 O6 S

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-methyl-1-piperidinyl)-L-prolyl-4-[([(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, monoftrifluoroacetate) (9CI)

MF C33 H34 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (48)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)

MF C33 H32 C12 F2 N6 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfonyl)-L-prolyl-4-[([3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) MF C34 H35 C12 N5 OB S2

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclobutylamino)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H34 C12 N6 O6 S
- CI COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-Lprolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
- C32 H31 C12 N5 O6 S2 MF

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-dimethyl-1piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) C34 H36 C12 N6 O6 S MF
- COM

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3S)-3-fluoro-1pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-,
- ethyl ester (9CI) C33 H33 C12 F N6 O6 S ME

Absolute stereochemistry.

# \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- REGISTRY COPYRIGHT 2008 ACS on STN L3 102 ANSWERS
- L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3-methyl-1-IN piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) MF C33 H34 C12 N6 O6 S
- COM

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-azetidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)

MF C32 H30 C12 F2 N6 O6 S

Absolute stereochemistry.

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C34 H35 C12 N5 O6 S2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-2(1H)-isoquinolinyl)-1-projyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C38 H42 C12 N6 O6 S . C2 H F3 O2

CM

### Absolute stereochemistry.

CM 2

IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(4,4-difluoro-1piperidinyl)prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) MF C32 H3O C12 F2 N6 O6 S

Absolute stereochemistry.

### \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,5-dimethyl-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester, mono(trifluoroacetate) (9CI)
- MF C36 H40 C12 N6 O6 S . C2 H F3 O2

CM 1

Absolute stereochemistry.

CM 2

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[([3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylamonio)ethyl ester (9CI)
- MF C36 H40 C12 F2 N7 O6 S

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, mono(trifluoroacetate) (9CI)
- MF C32 H32 C12 N6 O6 S . C2 H F3 O2

CM

CM 2

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

L-Phenylalanine, (3S)-1-[(3-cyanophenyl)sulfonyl]-3-[(1,1-dimethylethyl)amino]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, monosodium salt (9CI)

MF C31 H32 C12 N6 O6 S . Na

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclohexylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C35 H37 C12 N5 O6 S2

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(octahydro-1(2H)-quinolinyl)-1-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C38 H42 C12 N6 O6 S
- CI COM

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-pyrrolldinyl)-1-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C33 H32 C12 F2 N6 O6 S

- \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*
- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-methyl-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI)
- MF C35 H38 C12 N6 O6 S
  - I COM

# Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

IN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI)

MF C31 H28 C12 F2 N6 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

- L3 102 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
- IN L-Phenylalanine, N-[[2-[(3-cyanophenyl)sulfonyl]octahydro-1H-isoindol-1-yl]carbonyl]-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-
- MF C31 H29 C12 N5 O6 S

Absolute stereochemistry.

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

ALL ANSWERS HAVE BEEN SCANNED

```
2 3 4 5 6 17 24 25 26 27 28 29 31 37 38 42 43 45 47
ring nodes :
1 7 8 9 10 11 12 13 14 15 16 18 19 20 21 22 23 30 32 33 34 35
36
chain bonds :
1-2 1-45 2-3 2-25 3-4 4-5 4-6 5-26 5-27 6-7 10-28 13-17 15-42 16-43
17-18 22-24 28-29 29-30 29-31 32-37 34-47 36-38
ring bonds :
1-13 1-16 7-8 7-12 8-9 9-10 10-11 11-12 13-14 14-15 15-16 18-19 18-23
19-20 20-21 21-22 22-23 30-32 30-36 32-33 33-34 34-35 35-36
exact/norm bonds :
1-13 1-16 1-45 2-3 2-25 3-4 5-26 5-27 10-28 13-14 13-17 14-15 15-16 15-42 16-43 28-29 29-31 32-37 34-47 36-38
exact bonds :
1-2 4-5 4-6 6-7 17-18 22-24 29-30
normalized bonds :
7-8 7-12 8-9 9-10 10-11 11-12 18-19 18-23 19-20 20-21 21-22 22-23 30-32
30-36 32-33 33-34 34-35 35-36
```

# G1:X, MeO, EtO, n-PrO, i-PrO, CH3, CH2, CH, Et, n-Pr, i-Pr

chain nodes :

G3:H, CH3

Match level : 1:Atom 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:CLASS 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:Atom 31:CLASS 32:Atom 33:Atom 34:Atom 35:Atom 36:Atom 37:CLASS 38:CLASS 42:CLASS 43:CLASS 45:CLASS 47:CLASS

L10 STRUCTURE UPLOADED

=> s 110 sam

SAMPLE SEARCH INITIATED 18:23:53 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED -0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS

0 ANSWERS SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\* BATCH \*\*COMPLETE\*\* 0 TO 0 PROJECTED ITERATIONS: PROJECTED ANSWERS:

Lll 0 SEA SSS SAM L10

=> s 110 full

FULL SEARCH INITIATED 18:23:58 FILE 'REGISTRY' FULL SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS SEARCH TIME: 00.00.01

L12 0 SEA SSS FUL L10

=> d his

(FILE 'HOME' ENTERED AT 18:12:29 ON 11 NOV 2008)

FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008 L1 STRUCTURE UPLOADED

L2 10 S L1 SAM 1.3 102 S L1 FULL

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008 STRUCTURE UPLOADED L4

0 S L4 SAM SUB=L3 L5 0 S L4 FULL SUB=L3 L6

0 S L3

FILE 'CAPLUS' ENTERED AT 18:18:15 ON 11 NOV 2008

L7 4 S L3 1.8 1 S US20070179190/PN

1.9

FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 18:19:51 ON 11 NOV 2008

FILE 'STNGUIDE' ENTERED AT 18:20:04 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:21:49 ON 11 NOV 2008

L10 STRUCTURE UPLOADED

L11 0 S L10 SAM L12 0 S L10 FULL

=> log h

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL
ENTRY SESSION
CA SUBSCRIBER PRICE 0.0.0
-0.80

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 18:24:06 ON 11 NOV 2008

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID: SSPTACXB1654

CA SUBSCRIBER PRICE

PASSWORD:

\*\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \* \* \* SESSION RESUMED IN FILE 'REGISTRY' AT 18:39:30 ON 11 NOV 2008 FILE 'REGISTRY' ENTERED AT 18:39:30 ON 11 NOV 2008 COPYRIGHT (C) 2008 American Chemical Society (ACS)

COST IN U.S. DOLLARS
SINCE FILE ENTRY SESSION 179.74 423.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)
SINCE FILE TOTAL ENTRY SESSION ENTRY S

0.00

-0.80

=> d his

(FILE 'HOME' ENTERED AT 18:12:29 ON 11 NOV 2008)

FILE 'REGISTRY' ENTERED AT 18:12:36 ON 11 NOV 2008

I.1 STRUCTURE UPLOADED

L2 10 S L1 SAM

L3 102 S L1 FULL

FILE 'STNGUIDE' ENTERED AT 18:13:28 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:14:27 ON 11 NOV 2008

L4 STRUCTURE UPLOADED

L5 0 S L4 SAM SUB=L3

L6 0 S L4 FULL SUB=L3

FILE 'CAPLUS' ENTERED AT 18:18:15 ON 11 NOV 2008

.7 4 S L3

L8 1 S US20070179190/PN

FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 18:19:51 ON 11 NOV 2008

FILE 'STNGUIDE' ENTERED AT 18:20:04 ON 11 NOV 2008

FILE 'REGISTRY' ENTERED AT 18:21:49 ON 11 NOV 2008

L10 STRUCTURE UPLOADED

L11 0 S L10 SAM L12 0 S L10 FULL

=> fil caplus

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION
CA SUBSCRIBER PRICE 0.00 -0.80

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FILE COVERS 1907 - 11 Nov 2008 VOL 149 ISS 20 FILE LAST UPDATED: 10 Nov 2008 (20081110/ED)

Caplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/legal/infopolicy.html 'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

=> d ti 17 1-4

- L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of prolyl peptide derivatives as VLA-4 antagonists
- 7 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of dipeptide derivatives as VLA-4 antagonists
- L7 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of prolylphenylalanine derivatives as VLA-4 antagonists
- L7 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN
- TI Preparation of N-arylsulfonyl aza-bicyclic derivatives as potent cell adhesion inhibitors

=> d ibib abs hitstr 1-2 L12 HAS NO ANSWERS

'IBIB ABS HITSTR ' IS NOT A VALID STRUCTURE FORMAT KEYWORD ENTER STRUCTURE FORMAT (SIM), NOS:end

=> d ibib abs hitstr 17 1-2

L7 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1123323 CAPLUS

DOCUMENT NUMBER: 145:455274

TITLE: Preparation of prolyl peptide derivatives as VLA-4

antagonists

INVENTOR(S): Stock, Nicholas S.; Smith, Nicholas D.; Munoz, Benito

PATENT ASSIGNEE(S): Merck & Co., Inc., USA SOURCE: PCT Int. Appl., 29pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1 PATENT INFORMATION:

| P      | PATENT NO.             |           |     |     |     |     | KIND |          | DATE |                 | APPLICATION NO.                     |       |      |          |     |          | DATE |     |  |  |
|--------|------------------------|-----------|-----|-----|-----|-----|------|----------|------|-----------------|-------------------------------------|-------|------|----------|-----|----------|------|-----|--|--|
| W      | © 2006113199           |           |     |     |     | A1  |      | 20061026 |      | WO 2006-US13254 |                                     |       |      |          |     | 20060410 |      |     |  |  |
|        |                        | W:        | AE, | AG, | AL, | AM, | AT,  | AU,      | AZ,  | BA,             | BB                                  | , BG, | BR,  | BW,      | BY, | BZ,      | CA,  | CH, |  |  |
|        |                        |           | CN, | CO, | CR, | CU, | CZ,  | DE,      | DK,  | DM,             | DZ                                  | , EC, | EE,  | EG,      | ES, | FI,      | GB,  | GD, |  |  |
|        |                        |           | GE, | GH, | GM, | HR, | HU,  | ID,      | IL,  | IN,             | IS                                  | , JP, | KΕ,  | KG,      | KM, | KN,      | KΡ,  | KR, |  |  |
|        |                        |           | KZ, | LC, | LK, | LR, | LS,  | LT,      | LU,  | LV,             | LY                                  | , MA, | MD,  | MG,      | MK, | MN,      | MW,  | MX, |  |  |
|        |                        |           | MZ, | NA, | NG, | NI, | NO,  | NZ,      | OM,  | PG,             | PH                                  | , PL, | PT,  | RO,      | RU, | SC,      | SD,  | SE, |  |  |
|        |                        |           | SG, | SK, | SL, | SM, | SY,  | TJ,      | TM,  | TN,             | TR                                  | , TT, | TZ,  | UA,      | UG, | US,      | UZ,  | VC, |  |  |
|        |                        |           | VN, | YU, | ZA, | ZM, | zw   |          |      |                 |                                     |       |      |          |     |          |      |     |  |  |
|        |                        | RW:       |     |     |     |     |      |          |      |                 |                                     | , ES, |      |          |     |          |      |     |  |  |
|        |                        |           | IS, | ΙT, | LT, | LU, | LV,  | MC,      | NL,  | PL,             | PT                                  | , RO, | SE,  | SI,      | SK, | TR,      | BF,  | ΒJ, |  |  |
|        |                        |           | CF, | CG, | CI, | CM, | GΑ,  | GN,      | GQ,  | GW,             | ML                                  | , MR, | ΝE,  | SN,      | TD, | TG,      | BW,  | GH, |  |  |
|        |                        |           |     |     |     |     |      |          | SD,  | SL,             | SZ                                  | , TZ, | UG,  | ZM,      | ZW, | AM,      | ΑZ,  | BY, |  |  |
|        |                        |           |     |     |     | RU, |      |          |      |                 |                                     |       |      |          |     |          |      |     |  |  |
|        | AU 2006236895          |           |     |     |     |     |      |          |      |                 |                                     |       |      |          |     |          |      |     |  |  |
|        | CA 2603835             |           |     |     |     |     |      |          |      |                 |                                     |       |      | 20060410 |     |          |      |     |  |  |
| E      | EΡ                     | 9 1874757 |     |     |     |     |      |          |      |                 |                                     |       |      |          |     |          |      |     |  |  |
|        |                        | R:        |     |     |     |     |      |          |      |                 |                                     | , ES, |      |          |     |          |      |     |  |  |
|        |                        |           |     |     |     |     |      |          |      |                 |                                     | , PT, |      |          |     |          |      |     |  |  |
|        |                        |           |     |     |     |     |      |          |      |                 | JP 2008-506564                      |       |      |          |     |          |      |     |  |  |
|        |                        |           |     |     |     |     |      |          |      | IN 2007-CN4219  |                                     |       |      |          |     |          |      |     |  |  |
|        | CN 101155798           |           |     |     |     |     |      | 20080402 |      |                 | CN 2006-80011232<br>US 2005-671352P |       |      |          |     |          |      |     |  |  |
| PRIORI | PRIORITY APPLN. INFO.: |           |     |     |     |     |      |          |      |                 |                                     |       |      |          |     |          |      |     |  |  |
|        |                        |           |     |     |     |     |      |          |      |                 | WO :                                | 2006- | US13 | 254      | 1   | W 2      | 0060 | 410 |  |  |

OTHER SOURCE(S): MARPAT 145:455274

AB The invention relates to 4(R or S)-thio, -sulfinyl and -sulfonyl proline derivs. I [n is 0 or 1; V, W are independently alkyl, halo, or alkoxy; X, Y are independently 0 or not present; Z is N or N:0; Rl is (un)substituted alkyl or aryl; R2, R3 are independently H, alkylsulfonyl, CN, CF3, CCF3, or halo; R4 is (un)substituted alkyl, alkenyl, alkynyl, or a cyclic group] or their pharmaceutically-acceptable salts, which are antagonists of the VLA-4 integrin and are useful in the treatment, prevention and superession of diseases mediated by VLA-4-binding and cell adhesion and activation. Compds of the invention demonstrate significant receptor occupancy of VLA-4 bearing cells after oral administration and are suitable for once-, twice-, or thrice-a-day oral administration. Thus, (4R)-prolyl peptide I (n = 0; V = W = Cl; X = Y = null; Z = N; R = E; R2 = H; R3 = 3-CN; R4 = cyclopentyl) was prepared by sequential S-alkylation, peptide coupling, sulfonylation, and saponification

IT 913266-74-7P 913266-75-8P 913266-76-9P 913266-77-9P 913266-77-0P 913266-78-1P 913266-78-1P 913266-82-7P 913266-88-5P 913266-88-6P 913266-88-7P 913266-88-0P 913266-88-0P 913266-89-0P 913266-89-1P 913266-99-0P 913269-99-0P 913266-99-0P 91

(preparation of thio-, sulfinyl-, or sulfonyl-substituted prolyl peptide derive. as VLA-4 antagonists) 913266-74-7 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[(13,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN

RN 913266-75-8 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-76-9 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 913266-77-0 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,1-dimethylethyl)thio]-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-78-1 CAPLUS

CN L-Phenylalanine, (48)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,1dimethylethyl)thio]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino](9C1) (CA INDEX NAME)

- RN 913266-79-2 CAPLUS
- NAME: NAME:

- RN 913266-80-5 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclohexylthio)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 913266-81-6 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclohexylthio)-L-prolyl-4-[([(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-82-7 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl)-4-(phenylthio)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 913266-83-8 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(phenylthio)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-84-9 CAPLUS

CN L-Phenylalanine, (4R)-1-((3-cyanophenyl)sulfonyl)-4-[(1,2-dimethylpropyl)thio]-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-85-0 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(1,2-dimethylpropyl)thio]-L-proll-4-[(1,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 913266-88-3 CAPLUS

CN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[([(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 913266-89-4 CAPLUS

CN L-Phenylalanine, (48)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylthio)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 913266-90-7 CAPLUS

CN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

# Absolute stereochemistry.

- RN 913266-91-8 CAPLUS
- CN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

# Absolute stereochemistry.

- RN 913266-92-9 CAPLUS
- CN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl)-4-(cyclopentylsulfonyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 913266-93-0 CAPLUS

CN L-Phenylalanine, (4S)-1-[(3-cyanophenyl)sulfonyl]-4-(cyclopentylsulfonyl)-L-prolv1-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

#### Absolute stereochemistry.

REFERENCE COUNT:

1 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 2 OF 4 CAPLUS COPYRIGHT 2008 ACS on STN 2006:196055 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 144:254393

TITLE:

Preparation of dipeptide derivatives as VLA-4 antagonists

THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS

INVENTOR(S): Chen, Weichao; Lesback, Alec, D.; Munoz, Benito;

Venkatraman, Shankar; Wang, Bowei Merck & Co., Inc., USA

PATENT ASSIGNEE(S): SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2 DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

> APPLICATION NO. PATENT NO. KIND DATE DATE

| WC                     | 2006         | 0233 |             |             |             |             | WO 2005-US28768 |      |          |      |      |       | 20050812 |     |     |      |     |  |
|------------------------|--------------|------|-------------|-------------|-------------|-------------|-----------------|------|----------|------|------|-------|----------|-----|-----|------|-----|--|
| WC                     | 2006         | 0233 | 96          |             | A3 20060427 |             |                 |      |          |      |      |       |          |     |     |      |     |  |
|                        | W:           | ΑE,  |             |             |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
|                        |              | CN,  | CO,         | CR,         | CU,         | CZ,         | DE,             | DK,  | DM,      | DZ,  | EC,  | EE,   | EG,      | ES, | FI, | GB,  | GD, |  |
|                        |              |      |             |             |             |             |                 | IL,  |          |      |      |       |          |     |     |      |     |  |
|                        |              |      |             |             |             |             |                 | LV,  |          |      |      |       |          |     |     |      |     |  |
|                        |              | NG,  | NI,         | NO,         | NZ,         | OM,         | PG,             | PH,  | PL,      | PT,  | RO,  | RU,   | SC,      | SD, | SE, | SG,  | SK, |  |
|                        |              | SL,  | SM,         | SY,         | ΤJ,         | TM,         | TN,             | TR,  | TT,      | TZ,  | UA,  | UG,   | US,      | UZ, | VC, | VN,  | YU, |  |
|                        |              | ZA,  | ZM,         | ZW          |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
|                        | RW:          | ΑT,  | BE,         | BG,         | CH,         | CY,         | CZ,             | DE,  | DK,      | EE,  | ES,  | FΙ,   | FR,      | GB, | GR, | HU,  | ΙE, |  |
|                        |              | IS,  | IT,         | LT,         | LU,         | LV,         | MC,             | NL,  | PL,      | PT,  | RO,  | SE,   | SI,      | SK, | TR, | BF,  | ВJ, |  |
|                        |              | CF,  | CG,         | CI,         | CM,         | GA,         | GN,             | GQ,  | GW,      | ML,  | MR,  | ΝE,   | SN,      | TD, | TG, | BW,  | GH, |  |
|                        |              | GM,  | KE,         | LS,         | MW,         | ΜZ,         | NA,             | SD,  | SL,      | SZ,  | TZ,  | UG,   | ZM,      | ZW, | AM, | AZ,  | BY, |  |
|                        |              |      | ΚZ,         |             |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
|                        |              |      |             |             |             |             |                 |      |          |      |      |       | 20050812 |     |     |      |     |  |
|                        |              |      |             | A1 20060302 |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
| EF                     |              |      | A2 20070509 |             |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
|                        | R:           | AT,  |             |             |             |             |                 |      |          |      |      |       |          |     |     |      | IE, |  |
|                        |              | IS,  | IT,         | LI,         | LT,         |             |                 | MC,  |          |      |      |       |          |     |     |      |     |  |
| CN                     | CN 101006097 |      |             |             |             |             | 2007            | 0725 |          | CN 2 | 005- | 8002  | 20050812 |     |     |      |     |  |
| JP 2008510005          |              |      |             |             |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
| BR 2005014415          |              |      |             |             |             |             |                 |      |          |      |      |       |          |     |     |      |     |  |
| US 20070219252         |              |      |             |             |             | A1 20070920 |                 |      |          | US 2 | 007- | 6596  | 20070206 |     |     |      |     |  |
|                        | A 20070427   |      |             |             |             | IN 2        | 007-            | DN11 | 20070209 |      |      |       |          |     |     |      |     |  |
| MX 200701876           |              |      |             |             |             |             |                 |      |          | MX 2 | 007- | 1876  | 20070215 |     |     |      |     |  |
|                        | 2007         |      |             |             |             |             |                 |      |          | KR 2 | 007- | 7060: | 34       |     | 2   | 0070 | 315 |  |
| NO 2007001399          |              |      |             |             |             |             | 2007            | 0508 |          | NO 2 |      |       |          |     |     | 0070 |     |  |
| PRIORITY APPLN. INFO.: |              |      |             |             |             |             |                 |      |          |      |      |       |          |     |     | 0040 |     |  |
|                        |              |      |             |             |             |             | WO 2            |      |          |      |      | W 2   | 0050     | 812 |     |      |     |  |
| OTHER SOURCE(S):       |              |      |             |             |             | REAC        | T 14            | 4:25 | 4393     | ; MA | RPAT | 144   | :254     | 393 |     |      |     |  |

AB The invention relates to compds. I [A is N or N:0; X, Y are halo, alkyl or alkoxy, Rl is H or (un) substituted alkyl; R2 is H or Me; one of R3 and R4 is H and the other is 4-8 membered cyclic amine which is substituted by F, CF3, CO2H or ester; R5, R6 are independently H, alkylsulfonyl, CN, CF3, OCF3 or halo] or their pharmaceutically acceptable salts which are antagonists of VLA-4 and as such are useful in the inhibition or prevention of cell adhesion and cell-adhesion mediated pathologies such as inflammatory bowel disease. Thus, prolylphenylalanine derivative I (A = N; X, Y = C1, R1 = Et, R2, R3, R5 = H; R4 = (R)-3, 3-difluoropiperidino; R6 = 3-CN) was prepared by a multistep sequence involving reactions of 4-nitro-1-phenylalanine, 3,5-dichloroisonicotinic acid, cis-4-hydroxy-1-proline Me ester, 3-cyano-1-benzenesulfonyl chloride and 3,3-difluoropiperidine hydrochloride. Compds. of the invention demonstrated sustained and significant VLA-4 receptor occupancy (50%)

after oral dosing.

187406-29-2P 877406-26-3P 877406-27-4P

877406-29-2P 877406-30-9P 877406-32-1P

877406-43-4P 877406-43-6P 877406-43-6P

877406-43-4P 877406-43-6P 877406-43-6P

877406-49-0P 877406-51-4P 877406-53-6P

877406-59-9P 877406-57-0P 877406-59-P

RL: PRC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); TRU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (USES)

(preparation of dipeptide derivs. as VLA-4 antagonists)

RN 877406-25-2 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-1-prolyl-4-[(1,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-26-3 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-27-4 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1azetidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 877406-29-6 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-30-9 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-1-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI) (CA INDEX NAME)

- RN 877406-32-1 CAPLUS
- CN L-Phenylalanine, (45)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

- RN 877406-43-4 CAPLUS
- CN L-Phenylalanine, (48)-1-[(3-cyanophenyl)sulfonyl]-4-[2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 877406-45-6 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3S)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-47-8 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3R)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

- RN 877406-49-0 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-fluoro-1-piperidinyl)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

- RN 877406-51-4 CAPLUS
- CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl)-3-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9C1) (CA INDEX NAME)

RN 877406-53-6 CAPLUS

CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-piperidinyl)prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

# Absolute stereochemistry.

RN 877406-55-8 CAPLUS

CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(4,4-difluoro-1-piperidinyl)prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 877406-57-0 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2R)-2-[(1,1-dimethylethoxy)carbonyl]-1-pyrrolidinyl)-1-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9G1) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-58-1 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2R)-2-[(1,1-dimethylethoxy)carbonyl]-1-pyrrolidinyl]-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9C1) (CA INDEX NAME)

IT 877406-28-5P 877406-31-0P 877406-33-2P 877406-34-3P 877406-34-3P 877406-36-5P 877406-36-5P 877406-37-6P 877406-38-7P 877406-41-2P 877406-42-3P 877406-44-5P 877406-46-7P 877406-48-5P 877406-59-3P 877406-52-5P 877406-54-7P 877406-56-9P 877406-59-2P RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

- (preparation of dipeptide derivs. as VLA-4 antagonists) 877406-28-5 CAPLUS
- RN 877406-28-5 CAPLUS
  CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-azetidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NABD)

- RN 877406-31-0 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, methyl ester (9G1) (CA INDEX NAME)

- RN 877406-33-2 CAPLUS
- CN L-Phenylalanine, (45)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(901) (CA INDEX NAME)

Absolute stereochemistry.

- RN 877406-34-3 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-difluoro-1-piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, ethyl ester (9CI) (CA INDEX NAME)

RN 877406-35-4 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4,4-difluoro-1piperidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI)
(CA INDEX NAME)

Absolute stereochemistry.

RN 877406-36-5 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-methoxyethyl ester (9CI) (CA INDEX NAME)

RN 877406-37-6 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1-piperidinyl)-L-prolyl-4-[(13,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylamonio)ethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-38-7 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(3,3-difluoro-1pyrrolldinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-, 2-(trimethylammonio)ethyl ester (9CI) (CA INDEX NAME)

RN 877406-41-2 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2S)-2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[(3,5-dichloro-4pyridinyl)carbonyl]amino]-, ethyl ester (9C1) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-42-3 CAPLUS

CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(2S)-2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[(3,5-dichloro-4pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

- RN 877406-44-5 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[2-(trifluoromethyl)-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI) (CA INDEX NAME)

- RN 877406-46-7 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(35)-3-fluoro-1-pyrrolidinyl]-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI) (CA INDEX NAME)

- RN 877406-48-9 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-[(3R)-3-fluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI) (CA INDEX NAME)

- RN 877406-50-3 CAPLUS
- CN L-Phenylalanine, (4R)-1-[(3-cyanophenyl)sulfonyl]-4-(4-fluoro-1-piperidinyl)-L-prolyl-4-[((3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 877406-52-5 CAPLUS

CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-pyrrolidinyl)-L-prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-54-7 CAPLUS

CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(3,3-difluoro-1-piperidinyl)prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

RN 877406-56-9 CAPLUS

CN L-Phenylalanine, 1-[(3-cyanophenyl)sulfonyl]-3-(4,4-difluoro-1-piperidinyl)prolyl-4-[[(3,5-dichloro-4-pyridinyl)carbonyl]amino]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 877406-59-2 CAPLUS

CN L-Phenylalanine, (4R)-4-[(2R)-2-carboxy-1-pyrrolidinyl)-1-[(3-cyanophenyl)sulfonyl]-1-prolyl-4-[(16,5-dichloro-4-pyridinyl)carbonyl]mino]- (9CI) (CA INDEX NAME)

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